

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 740 921 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
20.09.2000 Bulletin 2000/38

(51) Int Cl.7: **A47K 10/38**

(21) Application number: **96106817.8**

(22) Date of filing: **30.04.1996**

(54) **Sheet dispenser**

Blattspender

Distributeur en feuille

(84) Designated Contracting States:
BE DE ES FR GB IT NL PT SE

(30) Priority: **04.05.1995 US 433978**

(43) Date of publication of application:
06.11.1996 Bulletin 1996/45

(73) Proprietor: **FORT JAMES CORPORATION**
Deerfield, IL 60015 (US)

(72) Inventor: **Petterson, Tor H.**
Rancho Palos Verdes, CA 90275 (US)

(74) Representative:
LOUIS, PÖHLAU, LOHRENTZ & SEGETH
Merianstrasse 26
90409 Nürnberg (DE)

(56) References cited:
EP-A- 0 117 074 **US-A- 4 462 507**
US-A- 5 205 455 **US-A- 5 370 338**

BEST AVAILABLE COPY

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

1. Field of the Invention

[0001] This invention relates in general to certain new and useful improvements in flexible and foldable sheet material dispensers, and more particularly, to sheet dispensers which are capable of easily threading a leading strip or sheet into a dispensing aperture from a center fed roll in the dispenser.

2. Brief Description of the Related Art

[0002] For several years, there have been dispensers available in which flexible sheet materials, such as paper towels are mounted in a large roll of such towels and with each of the individual towels being dispensed from the roll through the dispenser. Rolls of similar sheet materials, such as facial tissues and the like, are also capable of being dispensed from coreless, center-fed rolls.

[0003] There are several proposed and commercially available paper towel dispensers and which all rely upon supporting a roll of the paper towels on or with respect to a support plate which may form part of an outer housing and with a dispensing aperture in the plate member to enable a dispensing of a leading strip at the beginning or lead portion of the roll of paper towels through the dispensing aperture. However, the dispensing aperture is usually fairly small, having a diameter of perhaps no more than about 3/8 inch.

[0004] However, the very small size of this dispensing aperture makes it difficult for attendants to install a new roll of paper sheets and to feed the leading strip through the dispensing aperture thereof. In addition, there is no means to adjust the size of the feed aperture to accommodate a particular sheet condition or a particular sheet thickness. Due to the thickness of the sheet, it is desirable to vary the amount of frictional force imposed on the sheets passing through the dispensing aperture. Heretofore, there has been no effective means of adjusting the size of this opening.

[0005] Representative of the prior art devices which disclose center fed paper towels are U.S. Patent No. 5,310,083 dated May 10, 1994, U.S. Patent No. 5,205,455 dated April 27, 1993, and U.S. Patent No. 5,346,064 dated September 13, 1994. However, all of these dispensers are clearly representative of the prior art in that they have a fixed sized feed aperture with no means for easily enabling the feed of a leader strip of the sheet material through the feed aperture.

[0006] A dispenser having the features of the preamble of claim 1 is described in US-A-5 370 338.

SUMMARY OF THE INVENTION

[0007] This invention relates in general to a dispenser for the dispensing of individual sheets of a sheet product from a center fed roll of the product. The center-fed roll

of the sheet product is necessarily a coreless roll which enables the removal of sheets from the center portion thereof. These sheets are all formed of a flexible and foldable material and preferably are a fibrous sheet which encompasses at least fabric materials, both synthetic and natural, and paper and paperboard product materials. Thus, the sheets which are dispensed from the dispenser of the invention are non-metallic. One of the most common type of sheet which is dispensed with the dispenser of the present invention is a paper sheet material as for example, paper hand towels, facial tissues, various so-called "toilet tissues", baby cleansing tissues, and the like.

[0008] The dispenser of the present invention comprises a plate member for supporting or receiving the roll of the sheet product in a selected positions, such as an upright position. A dispensing aperture is formed in the plate member and positioned in alignment with the central opening of the roll for receiving the sheets of the sheet product in a form where they are initially connected to one another. In this way, an operator of the dispenser can pull outwardly on the leading sheet fed through the dispensing aperture in order to obtain a dispensing of the sheet.

[0009] The dispenser of the present invention as defined in claim 1, is provided with an opening formed in the plate in communication with the aperture. This enables the formation of a larger dispensing aperture such that the initial leading strip of the sheet material can be fed through the opening and into the aperture in order to start a feeding thereof.

[0010] In effect, the elongate slot or other opening and the initial aperture in the plate member form an elongate dispensing aperture. Further, closure means is provided with the support plate to selectively control the size of the dispensing aperture. In this way, it is possible to enable accommodation of paper sheets with differing thickness or with differing moisture conditions or the like.

[0011] It is important to provide a proper amount of friction on the individual sheets as they are pulled through the dispensing aperture so as to allow one sheet on the roll to be severed from the next above sheet. A control means allows the selective control of the size of the aperture.

[0012] Claim 2-9 define particular embodiments of the dispenser defined in claim 1.

[0013] Claim 10 concerns a method directed to the use of the device defined in claim 1.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Having thus described the invention in general terms, reference will now be made to the accompanying drawings in which:

Figure 1 is a side elevational view, partially in the section of a center fed paper towel dispenser constructed in accordance with and embodying the

present invention;

Figure 2 is a vertical sectional view somewhat similar to Figure 1 and showing a cover forming part of the dispenser in a partially closed position;

Figure 3 is a vertical sectional view, similar to Figures 1 and 2, and showing the dispenser in a fully closed position with a center fed roll of paper towels disposed therein;

Figure 4 is a horizontal sectional view taken along line 4-4 of Figure 2;

Figure 5 is a schematic prospective view showing a modified form of paper towel dispenser constructed in accordance with and embodying the present invention;

Figure 6 is a top plan view of a portion of the dispenser of Figure 5 and showing a positioning of a left-hand aperture central member;

Figure 7 is a bottom plan view of the embodiment of Figure 5 and showing a positioning of a right-hand aperture control member;

Figure 8 is a perspective view of a further modified form of dispensing mechanism and particularly showing a dispensing aperture control means; and Figure 9 is a perspective view of another embodiment of a dispenser in accordance with the present invention and particularly showing another modified form of aperture control means.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0015] Referring now in more detail and by reference characters to the drawings, A designates a sheet dispenser for dispensing individual sheets from a roll R thereof. In the embodiment of the invention as illustrated, the roll R is coreless and contains a central bore 20 through which paper towels T are initially dispensed. Moreover, and by reference to Figures 1 and 2 of the drawings, it can be seen that the roll R is essentially vertically positioned. However, in the case of dispensing of baby wipes from a baby wipe canister, the sheets would be pulled upwardly.

[0016] The paper towel dispenser A is generally comprised of an outer housing 24 having of a partially enclosing side wall 26. In this case, the side wall extends about three sides of the housing. A closure member 28 is hingedly connected to the top wall 30 of the housing by means of a hinge 32, as best shown in Figure 1. In accordance with this construction, the closure member 28 is shiftable upwardly to an open position and downwardly to a closed position, as best shown in Figure 3.

[0017] One of the important aspects of the dispenser A is the fact that the housing 24 includes a support plate 34 for supporting a vertically positioned roll of center fed paper towels T. Inasmuch as the plate 34 receives a vertically disposed roll of the sheet material, the plate is typically referred to as support plate. However, it should be understood that the dispenser A of the invention op-

erates equally as well when the roll is positioned such that its elongate opening is horizontally arranged for sideways feeding or when the sheets are dispensed through an upwardly opening dispensing aperture and pulled upwardly from the dispenser.

[0018] The support plate 34 is provided with an enlarged open upper end 36 constituting a part of a downwardly opening somewhat funnel-shaped dispensing aperture 38. The dispensing aperture 38 also has a lower opened end 40. In this respect, and in a preferred embodiment, the dispensing aperture 38 is somewhat conically shaped and provides a circularly shaped upper opening 36 and a circularly shaped lower opening 40. However, the lower opening 40 is substantially diametrically reduced compared to the open upper end 36.

[0019] It can be seen that the housing is constructed with an internally provided somewhat frusto-conically shaped wall 42 which forms the dispensing aperture 38 as shown and which terminates at a bottom wall 44 forming the lower end of the housing.

[0020] The frusto-conically shaped wall 42 is partially formed by an aperture control member 44 on the lower end of the closure member 28 and which, in effect, forms the upper open end 36 and the lower open end 40. The aperture control member 44 also comprises a portion of and effectively completes the frusto-conical wall 42. If the aperture control member 44 is not moved to its fully closed position, as shown in Figure 3, then the dispensing aperture 36 would not be circularly shaped, but rather it would be somewhat elongate.

[0021] It can also be observed that the support plate 34 is effectively provided with an opening, such as an elongate slot 50, in communication with the dispensing aperture 38 and extending to the edge of the plate 34. The size of this opening 50 is controlled by positioning of the aperture control member 44.

[0022] As the aperture control member 44 is shifted closer to the original conically shaped dispensing aperture 36 in the plate 34 it will reduce the size of the opening 50 and also reduce the size of the ultimately formed dispensing aperture 36. Thus, when the closure member 28 is in the fully open position as shown in Figure 1, the roll R paper towels T can be initially inserted from the edge of the plate 34 into the elongate slot 50. As the closure plate 28 is moved toward the closed position, it will start to reduce the size of the elongate slot and reduce the size of the enlarged opening until the cover member 28 is in the fully closed position, at which time the dispensing aperture 36 will adopt the shape and size as shown in Figure 3.

[0023] It is possible to allow the initial leading strip of sheet material to be inserted into the slot or other form of opening 50 and moved sideways into the dispensing aperture 36. Thereafter, the overall size of the dispensing opening formed by the slot 50 and the dispensing aperture 36 is controlled by the aperture control means 44. In essence, the dispensing aperture can be viewed as having an opening in one side to allow the leading

edge of the sheet material to be pushed sideways into the dispensing aperture and that the aperture control means 44 may constitute a plunger to enlarge or reduce the size of the dispensing aperture.

[0024] Figures 5-7 illustrate a modified embodiment of a dispenser for the dispensing of individual sheets of paper product or other sheet material from a center fed roll and which comprises a support plate 54 having a conically shaped dispensing aperture 56 therein. The dispensing aperture 56 has an opened upper end 58 at the upper surface of the support plate 54 and a diametrically reduced lower end 60 at the under surface of the support plate 54. In this way, the dispensing aperture 56 becomes conically shaped. An elongate slot 62 leads into the dispensing aperture and communicates with the side of the support plate 54 as best shown in Figures 5-7 of the drawings.

[0025] The dispensing aperture 56 can be adjustably sized by means of a first shiftable rod 64 on the right-hand side which is capable of shifting into the elongate slot 62. The shiftable rod 64 also has an arcuately shaped lower closure plate 66 capable of underlying the lower open end 60 and thereby reducing the size of the lower end 60 of the dispensing aperture 56. Thus, by controlling the position of the shiftable rod 64, it is possible to control the overall size of the lower open end 60.

[0026] In like manner, the size of the lower open end 60 can also be controlled by a similar shiftable rod 68 extendable from the opposite side of the dispensing aperture 56. In this case, the shiftable rod 68 carries an arcuately shaped end section 70 which will also slide along the underside of the plate 54 and control the size of the lower open end 60 from the left as best illustrated in Figure 6 of the drawings.

[0027] Figure 8 illustrates another slightly modified form of sheet dispenser and particularly the dispensing mechanism thereof. In this case, the dispensing mechanism 72 of Figure 8 would be mounted on the underside of a support plate such as the support plate 54 having one large opening therein. The dispensing mechanism 72 comprises a conically shaped wall 74 having an outwardly struck flange 76 with elongate recesses 78 formed therein. An arcuately shaped closure plate is associated with the funnel shaped wall 74 and includes fingers 82 which are capable of fitting within the elongate slot 78. Depending upon the position of the fingers 82 in the elongate slot 78 the overall size of a dispensing aperture 84 formed by the conically shaped side wall 74 will be determined.

[0028] Figure 9 illustrates another modified form of a dispensing mechanism which would similarly be mounted on one side of a support plate. In this case, the dispensing mechanism 86 of Figure 9 is comprised of a conically shaped side wall 88 forming a dispensing aperture 90. Again, a first end of the conically shaped wall 88 is provided with an outwardly struck flange 92 having a plurality of slots 94 formed therein. A plurality of hingedly mounted fingers 96 are formed on the opposite

or seamed end of the conically shaped wall 88 and are adapted to be inserted into elongate slots 98 of a similar flange 100 on the second end of the conically shaped wall 88, as best shown in Figure 4. Thus, when the fingers 96 are again inserted through each of the flange plates 92 and 100, they will control the overall size of the dispensing aperture 90.

10 Claims

1. A dispenser (A) for the dispensing of individual sheets of a flexible and foldable sheet product (T) from a center fed roll (R) of such product, said dispenser comprising:

a plate (34) for receiving a roll of the sheet product in a selectable orientation;
an aperture (38) in said plate positioned in such a way as to receive the sheets of the product and allow a user to pull the same outwardly through the opening

characterized in that

the plate (34) is provided with an opening (50) in communication with said aperture (38) and in communication with an outer edge of said plate allowing a strip of the sheets to be initially inserted from the outer edge of the plate and through the opening and into said aperture (38) to start the feeding through the dispensing aperture (38) thereof; and in that closure means (44, 64, 80, 96) moveable with respect to said plate are provided for closing said opening (50) after insertion of the sheets into the aperture (38) to insure that the dispensing of the sheets occur primarily through a resulting dispensing aperture.

2. The dispenser of claim 1 further characterized in that in use the center of a roll of said product as defined by an axial centerline passing through the roll is perpendicularly arranged to the plate.
3. The dispenser of claim 1 further characterized in that the sheet product is a fibrous sheet product.
4. The dispenser of claim 1 further characterized in that opening of the plate (34) is constituted by an elongate slot (50) in communication with an inner portion of said opening and an edge of said plate, and said opening and slot forming an elongate dispensing aperture.
5. The dispenser of claim 4 further characterized in that the closure means has control means (44, 64, 80, 86) associated with said elongate dispensing

aperture in said plate to selectively control the size of the elongate dispensing aperture to enable accommodation of sheets with different thickness or physical conditions.

6. The dispenser of claim 5 further characterized in that the aperture control means comprises an element (64, 68) shiftable with respect to said plate to selectively cover or expose a portion of the dispensing aperture.
7. The dispenser of claim 1 further characterized in that said plate forms part of a housing for storing the roll and that an openable cover member (28) forms part of the housing.
8. The dispenser of claim 7 further characterized in that the aperture control means (44) is mounted on said cover member and is movable with respect to said elongate dispensing aperture when said cover member is moved with respect to the housing.
9. The dispenser of claim 1 further characterized in that said dispenser has an outer housing sized to receive a center fed roll of said sheet product having a central bore (20) and a cover member mounted on said outer housing and which is openable and closeable to provide access to an interior of said housing.
10. A method of dispensing individual sheets of flexible and foldable sheet product in a dispenser from a center fed roll of such product, said method comprising:
 - a) supporting a roll of the sheet product in a position with respect to a generally flat surface;
 - b) inserting a strip of the sheet product through an opening of the flat surface which is also in communication with an edge of the generally flat surface and the dispensing aperture positioned with respect to said roll such that the aperture receives the sheets of the roll;
 - c) moving a closure means to a closed position for closing said opening and for allowing the sheets to be initially inserted into the aperture to start the feeding thereof and to enable pulling and dispensing of individual sheets of the product; and
 - c) allowing a user to pull the sheets outwardly through the aperture to achieve a dispensing thereof.

Patentansprüche

1. Blattspender (A) für die Abgabe einzelner Blätter eines flexiblen und faltbaren Blattproduktes (T) aus

einer mittigen Zuführrolle (R) eines derartigen Produktes, wobei der Blattspender eine Platte (34) zur Aufnahme einer Rolle des Blattproduktes in einer auswählbaren Orientierung und eine Abgabeöffnung (38) aufweist, die derart angeordnet ist, daß die Blätter des Produktes erfasst und von einem Benutzer durch die Abgabeöffnung nach außen gezogen werden können,

dadurch gekennzeichnet,

daß die Platte (34) mit einer in Verbindung mit der Abgabeöffnung (38) stehenden Öffnung (50) versehen ist, die in Verbindung mit einem Außenrand der Platte steht, so daß ein Streifen der ursprünglich von dem Außenrand der Platte und durch die Öffnung und in die Abgabeöffnung (38) eingeführten Blätter durch die Abgabeöffnung (38) zugeführt werden kann, um mit der Zuführung auch ihre Abgabeöffnung (38) zu beginnen, und daß gegenüber der Platte bewegliche Schließmittel (44, 64, 80, 96) zum Schließen der Öffnung (50) nach Einführung der Blätter in die Abgabeöffnung (38) vorgesehen sind, um sicherzustellen, daß die Abgabe der Blätter hauptsächlich durch eine daraus resultierende Abgabeöffnung stattfindet.

2. Blattspender nach Anspruch 1,

dadurch gekennzeichnet,

daß im Gebrauch das Zentrum einer Rolle des Produktes, wie es durch eine axiale, durch die Rolle verlaufende Mittellinie definiert ist, senkrecht zur Platte angeordnet ist.

3. Blattspender nach Anspruch 1,

dadurch gekennzeichnet,

daß das Blattprodukt ein fasriges Blattprodukt ist.

4. Blattspender nach Anspruch 1,

dadurch gekennzeichnet,

daß die Abgabeöffnung der Platte (34) von einem länglichen Schlitz (50) gebildet wird, der in Verbindung mit einem Innenabschnitt der Öffnung und einem Rand der Platte steht, wobei die Öffnung und der Schlitz eine längliche Abgabeöffnung bilden.

5. Blattspender nach Anspruch 4,

dadurch gekennzeichnet,

daß die Schließmittel Steuermittel (44, 64/80, 86) umfassen, die mit der länglichen Abgabeöffnung in der Platte in Verbindung stehen, um in auswählbarer Weise die Größe der länglichen Abgabeöffnung zu steuern, so daß Blätter mit unterschiedlicher Dicke oder unterschiedlichen physikalischen Eigenschaften untergebracht werden können.

6. Blattspender nach Anspruch 5,

dadurch gekennzeichnet,

daß die Steuermittel der Abgabeöffnung ein gegenüber der Platte verschiebbares Element (64, 68)

umfassen, um in wählbarer Weise einen Abschnitt der Abgabeöffnung abzudecken bzw. freizugeben.

7. Blattspender nach Anspruch 1,
dadurch gekennzeichnet,
daß die Platte einen Teil des Gehäuses zur Speicherung der Rolle bildet und daß ein offenes Abdeckelement (28) einen Teil des Gehäuses bildet.
8. Blattspender nach Anspruch 7,
dadurch gekennzeichnet,
daß das Steuermittel (44) der Abgabeöffnung auf dem Abdeckelement angeordnet und gegenüber der länglichen Abgabeöffnung beweglich ist, wenn das Abdeckelement gegenüber dem Gehäuse verschoben ist.
9. Blattspender nach Anspruch 1,
dadurch gekennzeichnet,
daß der Blattspender ein Außengehäuse aufweist, der zur Aufnahme einer mittigen Zuführrolle des Blattproduktes entsprechend bemessen ist, das eine zentrale Bohrung (20) hat, wobei ein Abdeckelement am Außengehäuse angeordnet und offenbar und schließbar ist, so daß zum Inneren des Gehäuses ein Zugang möglich ist.
10. Verfahren zur Abgabe einzelner Blätter eines flexiblen und faltbaren Blattproduktes in einem Blattspender aus einer mittigen Zuführrolle eines derartigen Produktes, wobei das Verfahren folgende Schritte umfasst:
 - a) Lagerung einer Rolle des Blattproduktes in einer Position gegenüber einer im allgemeinen flachen Oberfläche;
 - b) Einführung eines Streifens des Blattproduktes in eine Öffnung der flachen Oberfläche, die auch in Verbindung mit einem Rand der im allgemeinen flachen Oberfläche steht, und in die Abgabeöffnung, die gegenüber der Rolle derart positioniert ist, daß die Abgabeöffnung die Blätter der Rolle erhält;
 - c) Schließen einer Schließeinrichtung zum Verschieben der Öffnung, so daß die ursprünglich in die Abgabeöffnung eingeführten Blätter aus dieser heraus zugeführt und zur Abgabe einzelner Blätter des Produktes herausgezogen werden können; und
 - d) Herausziehen der Blätter durch die Abgabeöffnung zu ihrer Abgabe.

Revendications

1. Un distributeur (A) pour la distribution de feuilles individuelles d'un produit en feuille souples et pliables (T) depuis un rouleau d'alimentation central R de ce produit, ledit distributeur comprenant :

une plaque (34) destinée à recevoir un rouleau du produit en feuille dans une orientation pouvant être choisie à volonté ;
un orifice (38) dans ladite plaque disposé de manière à pouvoir recevoir les feuilles du produit et à permettre à un utilisateur de les tirer vers l'extérieur à travers l'ouverture,

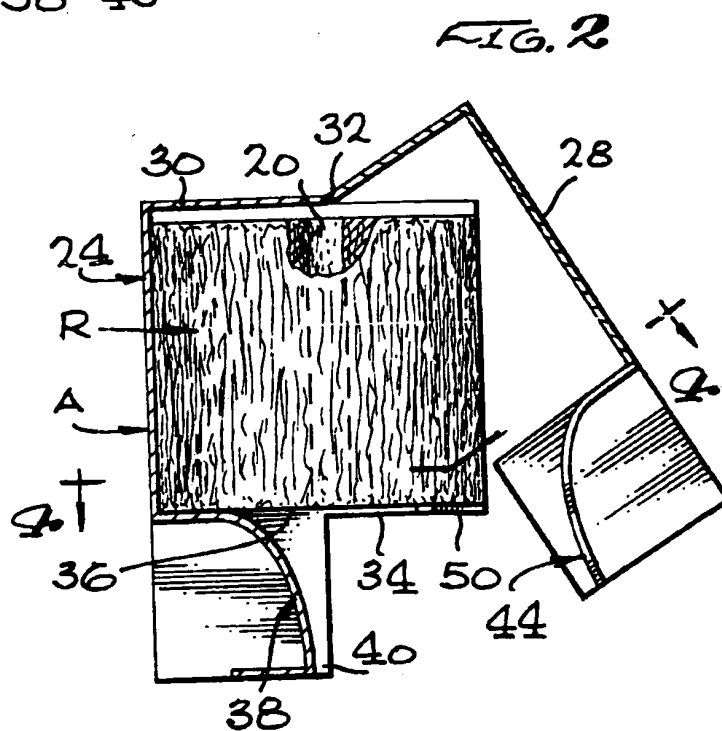
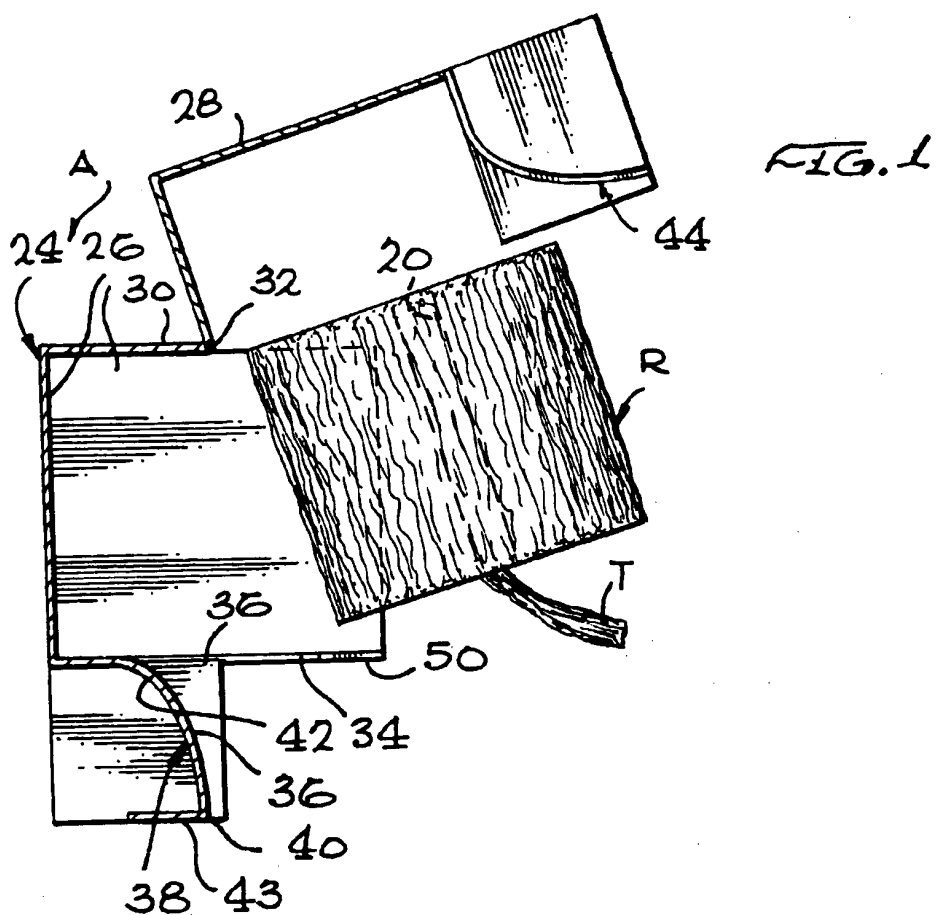
caractérisé en ce que la plaque 34 comporte une ouverture (50) en communication avec ledit orifice (38) et en communication avec un bord extérieur de ladite plaque, de manière à permettre à une bande des feuilles d'être à l'origine insérée depuis le bord externe de la plaque, à travers l'ouverture et dans ledit orifice (38) de manière à faire débiter l'alimentation à travers l'orifice de distribution (38) de celle-ci et en ce que des moyens d'obturation (44, 64, 80, 96), déplaçables par rapport à ladite plaque sont prévus, de manière à obturer ladite ouverture (50) après insertion des feuilles dans l'orifice (38) afin de s'assurer que la distribution des feuilles se produise principalement à travers une ouverture de distribution résultante.
2. Le distributeur de la revendication 1, caractérisé au surplus en ce que, en utilisation, le centre d'un rouleau dudit produit, tel que défini par une ligne axiale passant à travers le rouleau est situé perpendiculairement à la plaque.
3. Le distributeur de la revendication 1, caractérisé au surplus en ce que le produit en feuille est un produit en feuille fibreux.
4. Le distributeur de la revendication 1, caractérisé au surplus en ce que l'ouverture dans la plaque (34) est constituée par une fente allongée (50) en communication avec une portion interne dudit orifice et un bord de ladite plaque, et ledit orifice et ladite fente forment une ouverture de distribution allongée.
5. Le distributeur de la revendication 4, caractérisé au surplus en ce que les moyens d'obturation comportent des moyens de contrôle (44, 64, 80, 86) associés à l'ouverture allongée de distribution de ladite plaque, de manière à contrôler sélectivement la dimension de l'ouverture allongée de distribution et permettre le passage de feuilles d'épaisseur ou de conditions physiques différentes.
6. Le distributeur de la revendication 5, caractérisé au

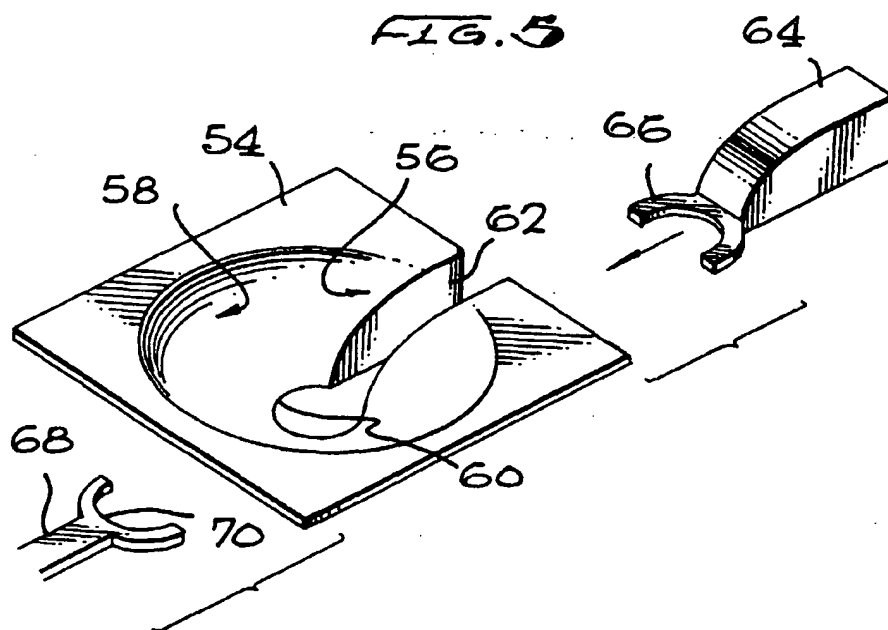
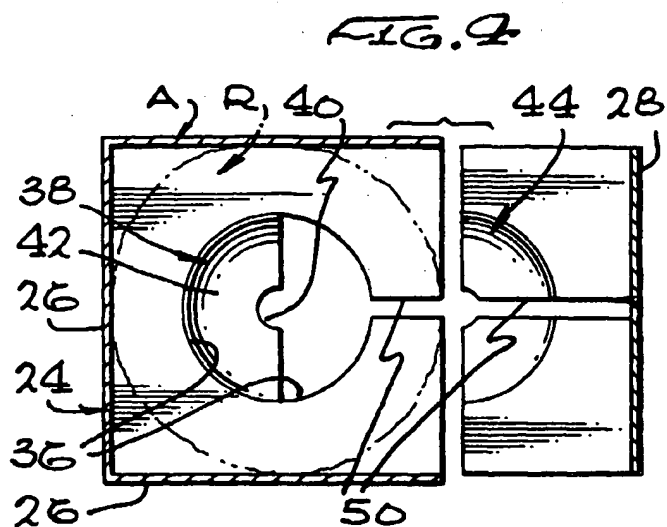
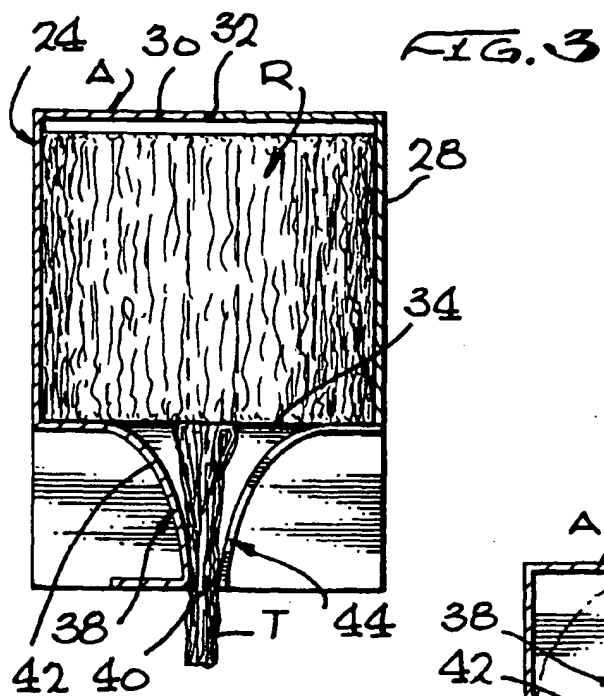
surplus en ce que les moyens de contrôle de l'ouverture consistent en un élément (64, 68) déplaçable par rapport à ladite plaque de manière à sélectivement recouvrir ou découvrir une portion de l'ouverture de distribution.

5

7. Le distributeur de la revendication 1, caractérisé au surplus en ce que ladite plaque constitue une portion d'un boîtier pour le stockage du rouleau et en ce qu'un élément de recouvrement ouvrable (28) forme une partie de ce boîtier. 10
8. Le distributeur de la revendication 7, caractérisé au surplus en ce que les moyens de contrôle de l'ouverture (44) sont montés sur ledit élément de recouvrement et sont mobiles par rapport à ladite ouverture allongée de distribution quand l'élément de recouvrement est déplacé par rapport au boîtier. 15
9. Le distributeur de la revendication 1, caractérisé au surplus en ce que ledit distributeur comporte un boîtier extérieur dimensionné de manière à recevoir un rouleau d'alimentation centrale dudit produit en feuille, comportant un trou central (20) et un élément de recouvrement monté sur ledit boîtier extérieur et qui est susceptible d'être ouvert et fermé de manière à procurer l'accès à l'intérieur dudit boîtier. 20 25
10. Une méthode pour la distribution de feuilles individuelles d'un produit en feuille souple et pliable dans un distributeur depuis un rouleau d'alimentation centrale dudit produit, ladite méthode consistant à : 30
 - a) supporter un rouleau du produit en feuille dans une certaine position par rapport à une surface d'aspect général plat 35
 - b) insérer une bande du produit en feuille à travers une ouverture de la surface d'aspect général plat qui est également en communication avec un bord de la surface d'aspect général plat, l'ouverture de distribution étant positionnée audit rouleau de manière telle que l'ouverture reçoit les feuilles du rouleau ; 40
 - c) déplacer des moyens d'obturation jusqu'à une position obturée de manière à libérer ladite ouverture et à permettre aux feuilles d'être initialement insérées dans l'orifice de manière à en faire commencer l'alimentation et à permettre la traction et la distribution de feuilles individuelles du produit ; et 45 50
 - d) permettre à un utilisateur de tirer les feuilles vers l'extérieur à travers l'ouverture de manière à en obtenir une distribution.

55





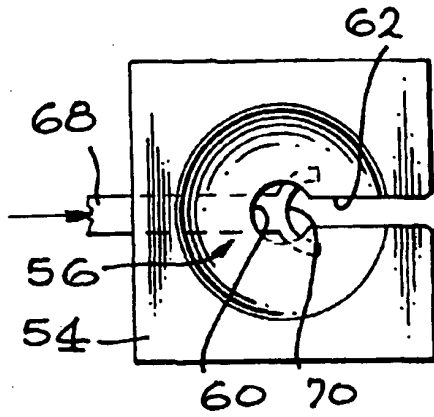


FIG. 6

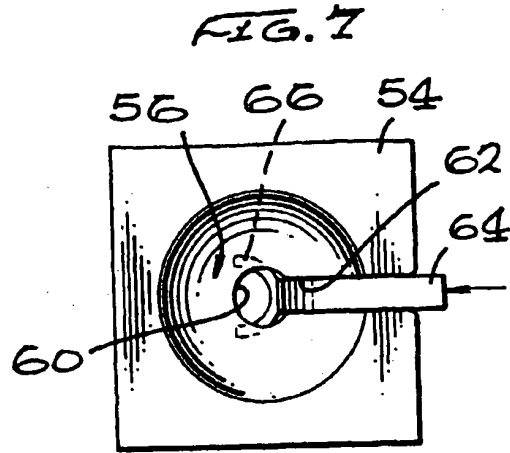


FIG. 7

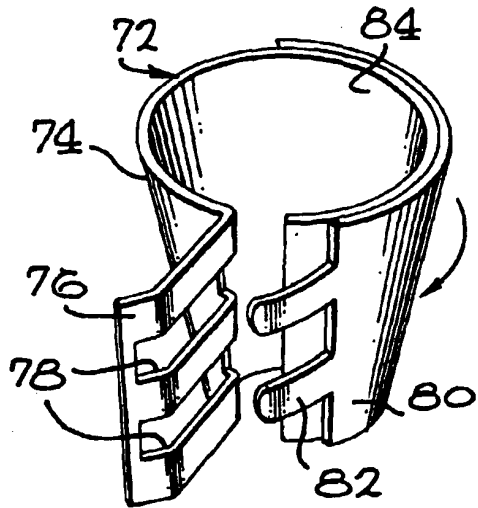


FIG. 8

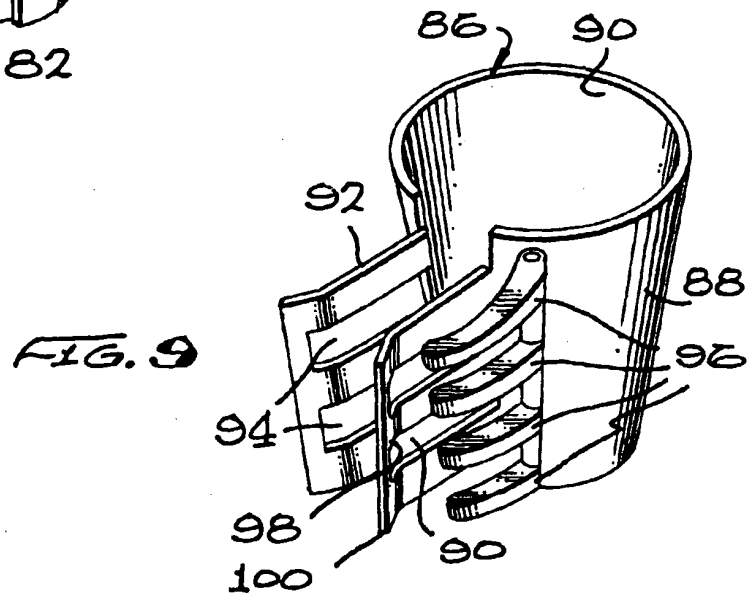


FIG. 9

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

THIS PAGE BLANK (USPTO)